



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,260	10/07/2002	Richard W. Duce	DP-301244	8074

7590 08/21/2003

Vincent A Cichosz  
Delphi Technologies Inc  
1450 West Long Lake Road  
Troy, MI 48007-5052

EXAMINER

CYGAN, MICHAEL T

ART UNIT	PAPER NUMBER
----------	--------------

2855

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/089,260

Applicant(s)

DUCE ET AL.

Examiner

Michael Cygan

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: at page 5, lines 23-24, the reference should be to U. S. Patent Application 10/110,021. Appropriate correction is required.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: in the last two lines of the claim, the insulator is said to be disposed between "said terminal" and "said second portion"; however, these are the same element "a second portion of said terminal". Appropriate correction is required.
3. Claims 3, 9, and 17 are objected to because the claims contain the phrase "consisting of including", which makes it unclear whether the ceramic consists solely of or merely includes members of the stated group.
4. Claim 9 is objected to because of the following informalities: the word "is" is missing from line 1 between "ceramic" and "selected".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuisell (US 5,817,920). Kuisell discloses the claimed invention, an oxygen sensor comprising sensing element [44], subassembly [50], upper shield [63], ceramic terminal support [72], and alumina insulator [62] having passageway for receiving terminals [66,68], connected in the claimed manner; see Figure 1 and columns 2-5. The terminal support is stated to be comprised of a high temperature ceramic; alumina is given as an example of a high temperature ceramic; see column 4, lines 23-29. A method of providing the above sensor for exposure to engine operating conditions as an exhaust gas sensor is disclosed (column 1, lines 33-39).
6. Claims 13, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by McClanahan (US 5,329,806). McClanahan discloses the claimed invention, an oxygen sensor having sensing element [40], subassembly [34], upper shield [68], terminal support [64], and ceramic insulator [44] having passageway for receiving terminals [52], and a seal

having a hinge portion designed to lock with an edge of the upper shield.

See Figures 2 and 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell. Kuisell teaches the claimed invention, including the use of high temperature durable ceramic fibers as an additional insulator [34], except for the use of ceramic fibers as the insulator [62]. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use high temperature durable ceramic fibers as the insulator [62], since the ceramic fibers are taught to have the properties (support, strength (i.e. durability), high temperature operation, electrical insulation) desired by in the ceramic insulator [62].
8. Claims 13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806). Kuisell teaches the claimed invention except for the claimed seal structure. McClanahan discloses a similar exhaust sensor having a seal [38] having

a hinge portion [70] designed to lock with an edge of the upper shield; see Figures 2 and 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the alternative seal design of McClanahan in the sensor of Kuisell to obtain the seal fixing advantages stated by McClanahan (column 1, lines 41-54).

9. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806) as set forth in the rejection of claim 13, further in view of Kato (US 5,948,963). The claimed invention is taught as detailed above except for the use of a talc pack separating insulator sections. Kato teaches the use of a talc pack [76] separating insulator sections (column 10, lines 52-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a talc pack to separate insulator sections (note separate insulator sections of McClanahan in Figure 7), since Kato teaches the use of such a layer to provide sealing.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. James (US 5,766,789) discloses the use of ceramic fibers as insulators in gas sensors. Paulus (US 5,886,248) and Hayakawa (EP 811,840 A2) disclose similar gas sensors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is 703-305-0846. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 703-305-4816. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read 'Michael Cygan', with a large, stylized loop at the end.

Michael Cygan  
Examiner  
Art Unit 2855